



Climate action and ISO standards



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Freely available resource



Success story



Call to action

International Standards accelerate climate action

Trusted International Standards help accelerate climate commitments into action. The wide-scale adoption of climate-related standards will help organizations adapt to and mitigate the impacts of climate change.

ISO and its members are committed to climate action

ISO and its member national standards bodies **are committed to aligning International Standards with climate action**. ISO has formalized this commitment through a resolution approved by its General Assembly in September 2021 (see [London Declaration](#)).

- ISO **equips standards developers with useful tools and frameworks** for integrating climate change considerations into the planning, drafting, revision and updating of ISO standards and other deliverables.
- ISO's world-renowned **management system standards (MSS)** are being harmonized so that each one is reviewed in line with climate considerations. Priority standards in energy, transport and building & construction are being reviewed with the support of climate-science advisors.



Freely available resource: [ISO Guide 84 Guidelines for addressing climate change in standards](#), provides a comprehensive overview of how to assess the potential impacts of climate change and integrate these considerations into the development of standards.

ISO and its members are committed to **working with those most affected by climate change** to ensure ISO standards are used everywhere and are implemented effectively into the national context.

- Through its **Action Plan for developing countries**, ISO offers a wide range of capacity building activities and tools to support the **wider participation of developing countries in the development of climate-aligned standards**.
- ISO helps to **build knowledge and expertise on key climate topics** (e.g. circular economy, clean energy transition) so that developing economies can benefit fully from the use of ISO standards, particularly those relating to climate change and trade.



Freely available resource: Through best practice and success stories, ISO's **Climate action toolkit for ISO members** is designed to support national standards bodies in their advocacy efforts with policymakers and regulatory bodies.

Standards support the decarbonization of heavy industries

To effectively tackle the climate crisis and reach the world's net-zero emissions targets, it is imperative to **accelerate the decarbonization of energy-intensive industries**. The pathway to industrial decarbonization is supported by ISO's portfolio on greenhouse gas (GHG) emissions.

- The **ISO 14064 series of standards** provides businesses and organizations with the guidance and tools to **effectively monitor, validate and verify their GHG emissions** to better manage and control them.
 - Since its introduction in 2006, many government bodies, at the country and local levels, have mandated its use for the assessment and verification of GHG emissions within emissions trading schemes.
- Using a recognized GHG accounting standard ensures **consistency and comparability** of emissions data and creates a baseline inventory for future tracking and reporting.

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- ISO also supports climate neutrality strategies for factories from energy-intensive industries through its **ISO 19694 series on stationary sources of emission**. This multi-part standard sets out the framework for determining the energy sources specific to each sector as well as harmonized methodologies for quantifying and monitoring greenhouse gas emissions.
 - ISO is introducing a **new standard for carbon neutrality (ISO 14068) as a transition to net zero** which sets a robust framework for measuring and achieving carbon neutrality, promoting transparency and accountability in the fight against climate change.
 - While standards exist to cover different aspects of a climate initiative, conformity assessment provides assurance that their specifications are being met. By offering a comprehensive set of tools and methodologies, the **ISO CASCO Toolbox** supports a **common approach to conformity assessment activities**.



Freely available resource: The ISO Net Zero Guidelines sets out **a definition of net zero and related terms**, high-level principles, actionable guidance on how to contribute to the global net-zero target, recommendations on transparent communication, credible claims and consistent reporting. Find out more at iso.org/netzero.



Success story

A 2017 **study** by the Rwanda Environment Management Authority showed that vehicle emissions are the biggest contributor to poor air quality in Rwanda's cities. This prompted the government to launch a nationwide initiative aimed at reducing vehicle carbon emissions as part of the country's broader efforts to promote a carbon-neutral economy. Inspired by ISO's standards on greenhouse gas management, the Rwanda Standards Board, ISO member for the country, published standards for air quality and emissions limits for road vehicles as well as automotive fuels equivalent to Euro 4. Those standards serve as benchmarks for the control of air pollution, testing and inspection of vehicle emissions with a view to protecting the environment, health and safety of the Rwandan population (see *References section for more details*).

Standards support a just energy transition

Increasing energy efficiency and the use of renewables is key to meeting the world's energy demands while contributing to global targets to reduce carbon emissions.

Hydrogen holds immense potential as a **clean fuel for the global energy transition**. ISO is developing standards for hydrogen through its technical committee on hydrogen technologies (ISO/TC 197). These include creating harmonized standards for safety, interoperability and sustainability across the hydrogen value chain. **A new technical specification (ISO/TS 19870) will be unveiled during COP28.**

ISO standards offer the means to **reduce energy consumption and cost**, and demonstrate a **strong commitment to sustainability**. For organizations, this gives a competitive advantage by enabling the development of products and services that are more energy-efficient and environmentally friendly.

- International Standards help organizations in all sectors:
 - develop an energy management system and **optimize their energy use for enhanced efficiency (ISO 50001)**.
 - **improve their environmental performance** in areas such as increased resource efficiency and waste reduction. This gives them a competitive advantage and instils trust among stakeholders.
 - **implement innovative technologies** – such as carbon capture and storage – **for increased energy efficiency (ISO/TC 265)**.
- International Standards **provide indicators to measure, analyse and verify energy performance**, as well as methodologies for the calculation of energy savings in projects, organizations and regions (ISO/TC 301).
 - For example, the **ISO 52000** series provides the tools and framework to **make buildings more energy-efficient**, covering everything from the design of the whole building to its individual construction materials.
- Over 50 International Standards support the **implementation of solar energy systems and biofuels**; these include standards for performance ratings and test methods, solar heating, solar panels and solid biofuels.
- **Check out the ISO Net Zero Guidelines** which point to **ISO standards that support GHG quantification and verification**, like the recently published **ISO/PAS 50010**, which gives guidance on the use of an energy management system in accordance with ISO 50001:2018.



Success story

In accordance with the Law on Climate Change and Energy Transition, the Spanish government recognized the need to promote renewable gas as a valuable resource for decarbonizing the economy. Collaborating closely with the Spanish association for standardization, UNE, ISO's member for the country, set to work on a regulatory framework aimed at standardizing the guarantee of origin (GO) for biomethane at the national level. Based on a European standard, the specification outlines the basic requirements for a GO for biomethane from any raw material or process prior to its injection into the gas network. This mechanism supports the introduction of renewable gas in Spain, where its use is not as widespread as in other EU countries (see *References section for more details*).

Standards support climate change adaptation

International Standards give organizations the tools and guidance to **better understand how current and future climate conditions could affect them**. They empower organizations to put in place **measures for effective adaptation** to the challenges posed by climate change (*ISO 1409x series*).

→ International Standards provide:

- **a robust framework** for helping **organizations understand the impacts and uncertainties** of climate change, and how these can be used to **inform decision making** (*ISO 14090*).
- guidance to organizations for **assessing the risks related to the potential impacts of climate change** (*ISO 14091*).
- local governments and communities with a structured approach for **defining an organization's climate vulnerability and adaptive capacity** in line with the national adaptation plan (*ISO/TS 14092*).

→ Whether natural or induced by human activity, disruptions and disasters are some of humanity's biggest concerns today, destroying entire communities in their wake. Amid these and other escalating climate risks, **ISO's technical committee on security and resilience (ISO/TC 292)** is working to establish a framework that will meet communities' future needs and demands for standards in this area, contributing to a safer, more resilient society.



Success story

Canada's North is highly vulnerable to the impacts of climate change, and keeping local communities safe and resilient has become the country's highest priority. Since 2011, SCC, the ISO member for Canada, has been working with community representatives, standards development organizations and experts across northern Canada to develop standards that help address the impact of climate change on buildings and infrastructure in the Canadian North. Developed under the Northern Infrastructure Standardization Initiative (NISI), these standards help building owners and operators design, build and maintain infrastructure in a changing climate (*see References section for more details*).



Organizations should use International Standards to help turn their climate plans and commitments into effective action.

Meaningful action requires cohesion between planning, acting and reporting of climate initiatives

Harmonizing, aligning and demystifying the complex international system of regulation, frameworks and standards can help policymakers and organizations accelerate change and transform commitments into effective action.

Fostering strategic partnerships is key to effective climate action

Greater integration between disclosure frameworks, and existing methodology and management system standards will help raise climate ambitions and support effective climate action through all phases: **planning, acting, and reporting**. ISO is committed to **working with reporting, disclosure and other standards bodies**.

Harmonization and alignment across the standards ecosystem accelerates the achievement of the Paris Agreement, the United Nations Sustainable Development Goals (SDGs) and the United Nations Call for Action on Adaptation and Resilience.

- In September 2023, **ISO and UNDP signed a landmark Statement of Intent**, signaling their commitment to the role of International Standards in addressing global development challenges. The two organizations are collaborating on the prospective development of the **first international standard for the SDGs** – based on UNDP's SDG Impact Standards and relevant ISO standards.

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- In 2023, ISO joined the **Impact Management Platform**, a collaboration between the leading providers of international public good standards, frameworks and guidance for managing impact. This coalition aims to **clarify and build consensus** on the meaning and practice of impact management, work towards a **complete and coherent** system of impact management resources and have **coordinated dialogue** with policymakers.
 - ISO responded to UNFCCC's consultation to help inform the **Net Zero Recognition and Accountability Framework and Implementation Plan**. The main objective of the consultation is to ensure greater recognition and accountability for climate actions by 'non-state' actors.

Why partner with ISO

- Bringing together national standards bodies from 169 countries, ISO provides a **neutral, transparent and inclusive platform** on which meaningful multi-sector partnerships can be built.
- ISO **brings together experts** from business, industry, government, NGOs, consumer groups, academia and research to share knowledge and develop consensus-based, market-relevant International Standards that provide solutions to global challenges.
- ISO has always taken a **collaborative approach to developing and drafting standards**. This results in a process that transcends national borders while providing economic, environmental and social benefits.
- Policymakers are invited to **engage in the International Standards development process** so they can stay informed of, and take part in, the development of climate-aligned standards. This also helps ensure that International Standards complement governments' climate action efforts.



Reporting, disclosure and standards bodies should collaborate to ensure cohesion so that organizations and policymakers can plan, act and report on their climate initiatives.



Success story

Launched at COP27, the **ISO Net Zero Guidelines** are the result of a multi-stakeholder collaboration between ISO, the UNFCCC Global Innovation Hub and the UN Race to Zero. Convened by BSI, ISO's member in the UK, the project began with an open call for interested parties to provide greater clarity and consistency around the “net zero” concept. Climate action stakeholders from over a hundred countries contributed to the development of these guidelines.



International Standards support climate policy implementation

International Standards are reliable tools for regulators to use in reaching national and international climate action targets. International Standards can play a valuable role in supporting national and international climate policy, particularly in terms of mitigation, adaptation and financing.

Standards are consensus-based

International Standards respond to market needs and are informed by global expert opinion through a **multi-stakeholder consensus-based process**.

- International Standards provide climate solutions that have the buy-in of many stakeholder groups. This can help **guarantee a high level of acceptance** for inclusion in public policy and legislation.
- Regulators rely on ISO standards for **internationally harmonized solutions that are continually reviewed and improved**. These provide a solid technical base that governments can use to achieve their national and international climate objectives and commitments.

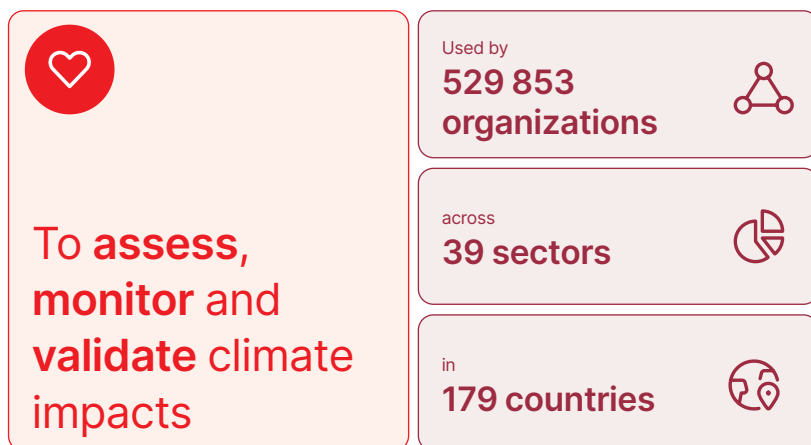
Standards are cost-effective

Rather than duplicating efforts to develop national standards, policymakers can **leverage existing trusted international climate-aligned standards** to save time, money and effort.

- International Standards reflect the **latest technical development**, so regulators can rely on recognized solutions to support their public policies.

- Standards are used to **establish the technical details**, allowing the legislation to concentrate on long-term policy objectives – for example product safety or environmental protection.
- International Standards that support climate action are **already widely adopted by businesses**.
- The widespread adoption and global endorsement of International Standards by regulators position them as **unifying benchmarks** and contribute to compliance with obligations under the World Trade Organization's (WTO) Technical Barriers to Trade (TBT) agreement.

ISO 14001 Environmental management systems



Standards lay down a common foundation for global action

International Standards establish a **solid foundation for global climate action**, setting **international benchmarks** to enhance the impact of any global initiatives. ISO is committed to ensuring that **countries worldwide share a common language** for addressing climate change and tracking its progress.

- International Standards establish a **universally accepted, verifiable and comparable way** of implementing climate action to accurately measure progress in the fight against climate change.

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- The ISO Net Zero Guidelines enable **a common global approach** to achieving net-zero greenhouse gas emissions. It aims to clarify the “net zero” concept and lay the foundation for accountability mechanisms and consistent reporting.
 - In collaboration with IEC, ISO has established **a robust system of conformity assessment** that plays a pivotal role in preventing greenwashing. This system offers a methodical framework for verifying that products and services meet their claimed environmental and sustainability commitments (**ISO/IEC CASCO toolkit**).



Freely available resource: In its **toolkit for public policy**, ISO offers a set of resources to **help policymakers** understand how International Standards can be used to support policy initiatives.

→ Visit ISO's dedicated policy website at policy.iso.org



Success story

Standards are a prominent feature of the UK government's new transport decarbonization plan. Published in 2021, “Decarbonising Transport: A Better, Greener Britain” sets out the country's ambitious pathway to net-zero transport that will deliver green jobs and make cities cleaner, quieter and healthier to live in. As part of this Plan, the British Standards Institution (BSI), ISO's member for the UK, has been coordinating a multi-stakeholder approach to develop a portfolio of standards that can be used in policies and regulation to encourage minimum best practices. Since its unveiling, the Plan has made good progress, ensuring that access to more sustainable forms of travel and its supporting infrastructure are constantly expanding (*see References section for more details*).



Policymakers and regulators should integrate International Standards into their processes and identify which International Standards are needed to fill climate action gaps.

International Standards provide recognition and accountability

The ISO system provides the most extensive and readily available platform to allow economic actors to implement and certify both voluntary and mandatory non-financial disclosures.

ISO's due process helps prevent "sustainability washing", it underpins the credibility and integrity of sustainable finance activities, and guides both companies and investors to better integrate sustainability considerations into their operations.

Standards accelerate sustainability, non-financial disclosure

Representation

- ISO is a valuable partner for **non-financial disclosure**, ensuring global and multi-sectoral representation: it brings together 169 national members and over 760 technical committees exhibiting the **broadest and most inclusive stakeholder base**.

Readiness

- The **existing portfolio** of climate-related standards provides a set of guidelines and tools that can be used as **indicators to validate non-financial disclosure**, including the most intensive reporting endeavours, such as "Scope 3".
 - International Standards help organizations **determine and communicate the costs and benefits** associated with their environmental aspects, impacts and dependencies on natural resources (**ISO 14007**).
 - International Standards provide a structured framework for assessing, measuring, monitoring and reporting on **investments and financing activities** in relation to climate change and the **transition into a low-carbon economy** (**ISO 14097**).

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- The **ISO Committee on conformity assessment (CASCO)** is responsible for developing policy and standards for conformity assessment. This helps to create **coherence, trust and accountability related to non-financial disclosure**. Currently in the making, **ISO 14019** defines the fundamental principles and criteria for validating and verifying sustainability information, including both voluntary and mandatory disclosure. The four-part series will also serve as the basis for validation and verification activities supporting a range of conformity assessment schemes.

Reach

- ISO's standards portfolio covers all areas of sustainability reporting. It provides a **one-stop-shop** of solutions for implementing disclosure regulations and certifying them.
- ISO's **conformity assessment ecosystem** facilitates widespread support for non-financial disclosures at the regional and local levels, particularly benefiting SMEs and developing countries.

Cost advantage

- The combination of ISO's standards and conformity assessment ecosystem enables the implementation of sustainability disclosures with a **significant cost advantage**, as compared to incumbent financial auditors, leading to broader adoption and inclusivity. This makes non-financial disclosure accessible to a greater number of companies and countries.

Future-proof

- ISO's standardization work already supports the most ambitious **disclosures on nature and externalities** including plastics and waste management.
- Non-financial disclosure standards include elements of **"future plans and projections"** on sustainability, supporting pledges, implementation and verification. In this area ISO CASCO toolkit already brings a widely adopted, turn-key solution.

Standards help ensure compliance

In a world where **transparency and accountability are the foundation of corporate responsibility**, neglecting compliance policies can expose companies to legal risks and potential litigation. By bringing ISO standards into the conversation around sustainability, business leaders can better plan their journey to a more sustainable and competitive future.

- Adopting a coherent sustainability strategy based on international standards ensures that management policies and procedures will **meet internationally recognized expectations** for quality, safety, transparency, accountability and continuous improvement. Some well-known ISO standards relating to sustainability are **ISO 9001** (quality), **ISO 14001** (environment), **ISO 45001** (workplace health and safety) and **ISO 50001** (energy).
- Today's regulatory focus on sustainability disclosure will require much **more accuracy and thoroughness in data provision**. By adhering to **ISO 37301** on compliance management systems, organizations can uphold the most ambitious sustainability disclosure standards while strengthening their competitive edge in their respective marketplaces.

Standards support sustainable finance

Tackling climate change, poverty and inequality requires an innovative financial system. International Standards are **essential for mobilizing finance globally** to address these environmental and social imperatives and ensure future prosperity.

- ISO publishes a broad **set of standards** enabling the implementation of sustainability disclosure, to ease the transition towards a sustainable economy. These will help to **underpin and catalyse sustainable finance** by providing structure, transparency and credibility for investments in environmental projects and programmes.
- International Standards provide a better **understanding of sustainable finance activities**. This, in turn, facilitates the development of sustainable financial products and related services such as third-party verifications.
- Standardized metrics **improve the transparency of sustainable finance flows** and the performance of sustainable finance activities, financial institutions and markets.

ISO standards for sustainable finance:

- **ISO 32210** (sustainable finance) gives organizations guidance on how to **apply overarching sustainability principles, practices and terminology for financing activities**. It helps build market confidence, provide credibility and embed sustainability across organizations.
- **ISO 14093** (financing local climate adaptation) provides a **framework for financing local adaptation to climate change** through performance-based climate resilience grants.
- **ISO 14008** (monetary valuation of environmental impacts) provides **methods for valuing environmental aspects and impacts**, supplying crucial data that feeds into cost-benefit analyses for different environmental options. It assists policymakers in **formulating policies (e.g. green taxes, compensation mechanisms or subsidies)** by taking into account the present and future valuation of environmental damage. This standard also serves as a vital tool for today's growing field of disclosure and reporting.
- International Standards **help eliminate confusion and greenwashing**, improving confidence in the market. For example, **ISO 14030-2** (environmental performance evaluation) provides an **internationally agreed roadmap for issuing green bonds and originating green loans**.



Organizations should verify and validate their sustainability claims based on International Standards to assure the credibility and accountability of their actions.

References

Links

ISO at COP28

<https://www.iso.org/cop28>

ISO Climate Action Kit

<https://www.iso.org/ClimateAction.html>

ISO dedicated policy website

<https://policy.iso.org>

ISO publications and resources

ISO/IEC CASCO toolbox

<https://casco.iso.org/toolbox.html>

Climate action toolkit for ISO members, 2023

<https://www.iso.org/publication/PUB100477.html>

Climate action toolkit: case studies, 2023

<https://www.iso.org/publication/PUB100478.html>

Standards and public policy: A toolkit for national standards bodies, 2023

<https://www.iso.org/publication/PUB100476.html>

ISO Action Plan for developing countries 2021-2025

<https://www.iso.org/publication/PUB100374.html>

ISO Net Zero Guidelines, 2022

<https://www.iso.org/netzero>

ISO Guide 84:2020, Guidelines for addressing climate change in standards

<https://www.iso.org/standard/72496.html>

Climate change mitigation, 2019

<https://www.iso.org/publication/PUB100271.html>

Climate change adaptation, 2020

<https://www.iso.org/publication/PUB100449.html>

Green and sustainable finance, 2022

<https://www.iso.org/publication/PUB100458.html>

ISO and energy, 2018

<https://www.iso.org/publication/PUB100320.html>

ISO and climate change, 2018

<https://www.iso.org/publication/PUB100067.html>

Introduction to ISO 14001:2015

<https://www.iso.org/publication/PUB100371.html>

Success stories

RSB: Reducing vehicle emissions through standards in Rwanda

<https://go.iso.org/case-study-rsb>

SCC: CarbonCure: Recycling CO₂ to make greener concrete in Canada

<https://go.iso.org/case-study-scc-2>

SCC: Fighting floods in Canada's North

<https://go.iso.org/case-study-scc-1>

UNE: Decarbonizing the Spanish power sector with renewable gas

<https://go.iso.org/case-study-une>

BSI: Standards supporting UK ambitions to net zero

<https://go.iso.org/case-study-bsi>



Let's collaborate to accelerate climate action

- Climate experts interested in getting involved in standards development are invited to contact their national standards body (NSB). The list of NSBs is available here: <https://www.iso.org/members>
- International organizations interested in exploring partnerships with ISO are invited to contact our Strategic Partnerships team at partnerships@iso.org.

About ISO

ISO (International Organization for Standardization) is an independent, non-governmental international organization with a membership of 169* national standards bodies. Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market-relevant International Standards that support innovation and provide solutions to global challenges.

ISO has published more than 25 000* International Standards and related documents covering almost every industry, from technology to food safety, to agriculture and healthcare.

For more information, please visit www.iso.org.

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